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Logistics Management Institute

# Accounting for Facilities-Related Charges at Fort Detrick

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March 2001

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## Executive Summary

Located in Frederick, MD, U.S. Army Garrison Fort Detrick serves 36 tenant organizations whose primary missions are biomedical research and development, military medical logistics, and global telecommunications. Among other services, the Directorate of Installation Services (DIS) at Fort Detrick provides operations and maintenance support for the buildings occupied by those tenants and charges its customers for facilities-related support based on the time and materials required.

DIS customers need reliable and timely cost information so they can understand and verify costs for facilities-related services and can make sound decisions about how much money to obligate each year to each facilities-related account. However, in the recent past, the Resource Manager (RM) at Fort Detrick has received numerous customer inquiries regarding the accuracy and relevancy of their facilities-related charges.

LMI investigated how financial data are captured at Fort Detrick. We found that the DIS captures data for facilities-related activities using the Integrated Facility System (IFS), a standard Army maintenance and management information system. To charge accounts for services provided, DIS transfers financial information from IFS to the Standard Finance System (STANFINS), the Army's financial accounting system. This system tracks charges for the multitudes of accounts established at the installation to serve the garrison and its tenants.

Because of differences between the two systems, for example, differences between the dates of service and when costs are actually charged, cost information between IFS and STANFINS can be reconciled with any specificity only at the end of each fiscal year. Though more regular reconciliation between IFS and STANFINS is theoretically feasible, it is neither practical nor cost-effective because both DIS and the RM office would need to dedicate considerable resources to align the two systems. However, DIS can improve financial accountability for facilities-related charges by doing the following:

- ◆ In IFS, include estimated costs for preventive maintenance and work orders for new construction, building alterations, and major repairs.

- ◆ Establish a consistent process for ensuring that the completion of all service calls, preventive maintenance, and work orders is recorded in IFS.
- ◆ Implement a web-based process that would enable the customer to request a service call via the website and DIS to log status and other information that the customer could access directly.
- ◆ Provide regular reports on scheduled preventive maintenance activities and associated costs.
- ◆ Provide statements on new construction, building alteration, and major repair projects that list estimates on final project costs, even though those charges may not have been entered into the information system.
- ◆ Review garrison policy on the use of account processing codes with the objective of reducing the number of codes now used.
- ◆ Improve the content and format of monthly customer statements, particularly by including estimated charges.

By implementing our recommendations, Fort Detrick can improve its ability to effectively track charges for facilities-related work and thus improve customer satisfaction.

# Contents

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Chapter 1 Introduction .....	1-1
STUDY APPROACH.....	1-2
REPORT ORGANIZATION.....	1-3
Chapter 2 Information Management Systems and Practices .....	2-1
INFORMATION MANAGEMENT SYSTEMS .....	2-1
Integrated Facility System.....	2-1
Standard Finance System .....	2-2
DIS PRACTICES .....	2-3
Service Calls.....	2-4
Preventive Maintenance .....	2-5
Work Orders .....	2-7
Chapter 3 Customer Requirements and Concerns .....	3-1
KEY FINDINGS.....	3-1
Service Calls.....	3-1
Preventive Maintenance .....	3-2
Work Orders .....	3-3
Summary .....	3-3
ANALYSIS.....	3-4
Reconciliation of IFS and STANFINS.....	3-4
Multiple APCs.....	3-5
Workflow Processes .....	3-6
CONCLUSIONS .....	3-7
Chapter 4 Recommendations .....	4-1
IFS DATA CAPTURE.....	4-1
DIS INFORMATION FLOW.....	4-1
Closing Tasks in IFS .....	4-1
Service Calls.....	4-2

Preventive Maintenance .....	4-3
Work Orders .....	4-4
GARRISON POLICY .....	4-4
CUSTOMER REPORTS .....	4-5
IMPLEMENTATION PHASES .....	4-6

## Appendix A. Facilities-Related Workflow Processes

## Appendix B. Abbreviations

# Chapter 1

## Introduction

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Located in Frederick, MD, U.S. Army Garrison Fort Detrick serves 36 tenant organizations whose primary missions are biomedical research and development, military medical logistics, and global telecommunications. The Directorate of Installation Services (DIS) at Fort Detrick, with an annual budget of approximately \$24 million, provides its customers—both tenant and garrison organizations—with a myriad of logistics and public works support services.<sup>1</sup>

Three service areas are related to the upkeep of installation facilities:

- ♦ *Service calls.* Typically referred to as trouble calls, this support comprises requests for immediate maintenance and repair assistance. Service calls range from replacing light bulbs to repairing broken toilets, leaky roofs, or faulty heating systems.
- ♦ *Preventive maintenance (PM).* This support includes periodic review and maintenance of facilities-related equipment, including heating, air conditioning, and elevator systems.
- ♦ *Work orders.* This support encompasses services related to new construction, building alterations, and major repairs.

DIS charges its customers for facilities-related support based on the time and materials required. Each tenant has several accounts established with the garrison, each of which is assigned an account processing code (APC) and is defined by the type of activity that can be charged to it. For example, customers can have one account for service calls, one for PM, and so on. Typically, each APC is unique to both a customer and the type of activity being charged to that customer.

DIS captures workload data for facilities-related activities, as well as tracks and monitors that information, using the Integrated Facility System (IFS), a standard Army maintenance and management information system. To properly charge accounts for services provided, DIS transfers financial information from IFS to the Standard Finance System (STANFINS), the Army's financial accounting system. This system tracks charges for the multitudes of accounts established at the installation to serve the garrison and its tenants. STANFINS falls primarily under the purview of the Resource Manager (RM) at Fort Detrick; the RM office monitors and manages overall costs for the installation.

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<sup>1</sup> Approximately 35 percent of DIS funding is from reimbursable tenant work.



DIS customers need reliable and timely cost information so they can make sound decisions about how to manage expenses and how to allocate budgeted resources each year to each facilities-related account. However, in the recent past, the RM office has received numerous customer inquiries regarding the accuracy and relevance of their facilities-related charges. Differences in reporting between IFS and STANFINS make tracking and reconciling charges problematic. This, in turn, has made it difficult for the RM office to verify charges and resolve customer complaints.

To improve its ability to effectively track charges for facilities-related work and thus improve customer satisfaction, the RM office at Fort Detrick asked LMI to investigate how tenants (as opposed to garrison organizations) are charged for service calls, PM, and work orders. The underlying objectives of this study were to

- ◆ understand how financial data are captured in IFS and STANFINS,
- ◆ identify specific accounting or operational practices that account for significant differences between the two systems, and
- ◆ develop recommendations to reduce cost differences between the two system and to improve the installation's accountability to tenants for facilities-related charges.

## STUDY APPROACH

LMI gathered the required information primarily from interviews. Specifically, we interviewed the following:

- ◆ Staff members at the installation who operate IFS and STANFINS
- ◆ Staff members at the installation who support customer-requested facilities work, including service calls, PM, and construction or alterations, as well as members of the financial support staff
- ◆ Three installation customers: U.S. Department of Agriculture (USDA), U.S. Army Medical Research in Infectious Diseases (USAMRID), and U.S. Army Medical Research and Materiel Command (MRMC)
- ◆ IFS technical expert from the U.S. Army Corps of Engineers.

We also reviewed third-quarter reports from FY00 for both IFS and STANFINS.

## REPORT ORGANIZATION

Chapter 2 discusses current information management systems and operational practices at Fort Detrick. Chapter 3 discusses customer requirements for financial information for facilities-related activities and summarizes our findings and conclusions. Chapter 4 provides our recommendations.

# Chapter 2

## Information Management Systems and Practices

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In this chapter, we evaluate the current information systems, relevant to facilities management, in place at Fort Detrick. We also discuss operational practices that affect data capture and financial accountability.

### INFORMATION MANAGEMENT SYSTEMS

Fort Detrick relies primarily on IFS to support data management of its facilities-related operations, particularly maintenance, repairs, and construction. Financial information from IFS is transferred to the primary accounting system, STANFINS, to properly charge accounts for services provided to either tenants or the garrison.

#### Integrated Facility System

IFS is designed to capture data at the task level for maintenance, repairs, and construction. Before a task is assigned to shop personnel, IFS requires manual data entry of key operational and financial codes for the task. The system then generates a document for the task and assigns each task a unique document (or job) number. Since the Army has standard funds accounting practices for all of its functional areas, including operations and maintenance, IFS also has the capacity to generate the correct APC for charging the task. The APC and document number for each task are the two most critical pieces of information for identification and accounting purposes.

Once a document has been established in IFS, DIS staff members can charge to the task. Facilities staff can input labor hours and material costs to the document number. IFS also has a specific methodology by which it correlates labor hours to dollar values. It requires entry of estimated hourly rates based on specific labor categories, not on an individual's actual hourly rate. This "shop-effective" rate requires manual calculation and aggregates factors such as varying grade levels and annual leave. The shop-effective rate also includes the incremental cost of miscellaneous consumable supplies.

IFS also has the capacity to capture specific information on each task including estimated costs, start and end dates, and a brief description of the work being performed. It can also include other relevant data, such as the shop area assigned to the task, the facility number, and the work schedule. Contract costs associated with a particular task can also be captured; however, a new module recently became available that enhances the system's capacity to handle contract costs.

IFS can capture, and therefore inform management on, a robust variety of information related to facilities cost and performance. IFS has some limitations, however, because it is based on technology from the early 1970s. That technology requires that users know specific computer language terminology in order to retrieve information outside the predefined reports. Though the Army continues to identify and make needed product improvements, IFS is not equivalent to systems available in the private sector. These applications utilize user-friendly interfaces, particularly graphics-based screens that reside on all desktops and can be easily accessed and understood by a wide variety of staff members. In contrast, accessing the full capacity of IFS requires technically proficient staff members. Indeed, LMI observed that data entry to the system is typically limited to a few staff members and that the system's potential use on Army installations is not consistent with its capacity.

It is also important to note that, unlike some software available in the private sector, the IFS is not designed to interact with payroll systems. This means that hourly rates must be manually estimated and updated periodically. The Army advises users to update labor estimates at least annually. Also, labor charges are not based on individual labor rates. These factors curtail the ability of IFS to deliver an assessment of charges on a real-time basis. Nevertheless, the capacity of IFS as a facilities management information system remains strong and has the further advantage of being able to interact with other standard Army information systems.

## Standard Finance System

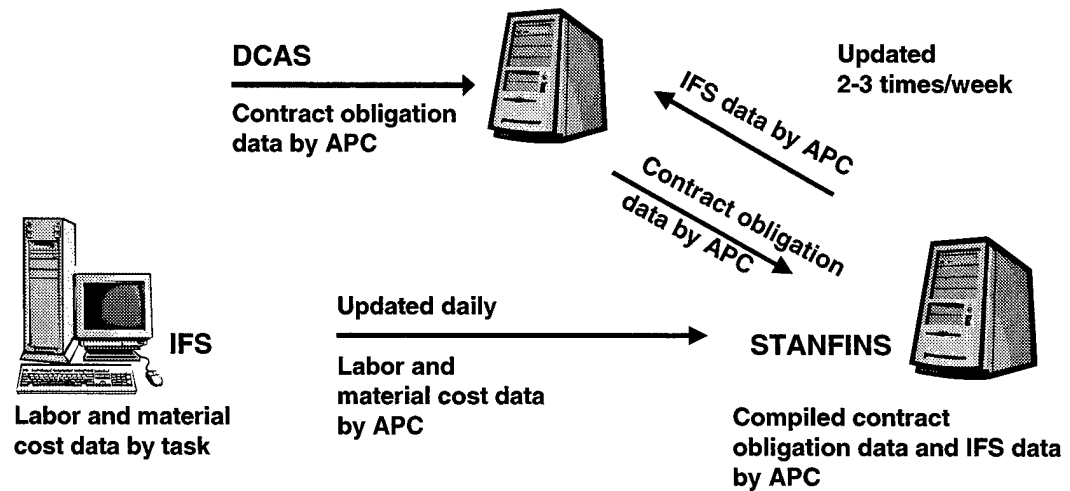
The Army uses STANFINS to provide comprehensive accounting support at all Army installations. It is designed as an Army-wide general ledger system to transfer funds between accounts within and among installations and organizations (Army and non-Army) on an installation. Whereas IFS captures data at the individual task level, STANFINS captures data only down to the APC, or account, level.

For facility-related costs, STANFINS receives cost data from IFS in nightly electronic downloads. The charges are aggregated or rolled up to the account level from IFS in the download process. Any errors from the nightly transmission are automatically generated on a report for DIS staff members to review.

In addition to information on actual expenditures, STANFINS contains information on budgeted and committed funding, again at the APC level. This information is captured from another standard Army system, the Database Commitment Accounting System (DCAS), that records and manages funds and commitments data. DCAS is also used to manage construction contract and some material purchase expenditures data. Interviews indicate that at Fort Detrick, electronic downloads between DCAS and STANFINS occur every 3 to 5 days.

Figure 2-1 captures the relationship between the three systems at Fort Detrick for facilities-related information.

Figure 2-1. Relationship Between IFS, STANFINS, and DCAS



## DIS PRACTICES

DIS, the largest customer-service-oriented directorate at Fort Detrick, employs approximately 240 employees. The Directorate was formed with the consolidation of Fort Detrick's public works and logistics operations in 1995. DIS is organized into three primary divisions:

- ♦ The Operations and Maintenance Division provides for the day-to-day services required to keep Fort Detrick's buildings and grounds in functioning condition. Those services include facility maintenance and repair, utilities generation and distribution, energy conservation management, roads and infrastructure maintenance, snow removal, pest control, refuse removal, and hazardous waste management.
- ♦ The Planning, Programming, Engineering and Construction Division provides technical engineering support for installation construction and maintenance projects, facility master planning, engineering studies, and construction programming. It also provides contract administration and inspection services for installation construction contracts.
- ♦ The Supply Support Division provides complete supply operations support, including base supply, transportation of household goods, motor pool, freight services, mail operations, food service, and travel.

The Directorate is dedicated to providing organizations on the installation with the highest level of engineering, maintenance, utilities, transportation, mail, freight, hazardous materials, government vehicle, and supply management services. Of these services, the IFS is used to support three distinct areas: service calls, PM, and work orders. In the following subsections, we briefly describe these services and summarize DIS work practices. Those practices include the

development and entry of data in IFS. Appendix A contains charts showing the workflows for the three processes.

## Service Calls

A service call is a discrete maintenance option that customers can exercise; each service call serves as an authorization to spend up to 40 labor hours and \$2,500 in materials. Reports by employees at tenant organizations on maintenance requiring immediate attention are referred to the DIS trouble desk.

The workflow process for service calls begins at the trouble desk, where a data entry clerk takes a verbal or written request from the customer. The clerk then enters requisite information about the task in IFS to create a job document. Typically, customers request that a single account number, with funds, be established to support multiple service calls throughout the year. At Fort Detrick, however, in an effort to promote greater visibility for reporting purposes, multiple APCs for service calls may be established for some customers. It is common practice for the clerk to manually enter an APC for the task instead of letting the IFS automatically derive one. Although the customer sometimes tells the clerk the correct APC, the clerk generally selects the APC from a book of active codes. The clerk determines the appropriate APC based on the type of request and the organization making the request. If the clerk is unable to determine the appropriate APC, the DIS budget staff makes the determination. Sometimes the staff determines that a particular task is not covered by existing account codes and requests a new one be established through the RM office.

Once the IFS document is generated, the clerk forwards the task to the appropriate operations and maintenance shop (e.g., plumbing or electrical). A shop supervisor then schedules the task. Staff members conduct the work, requesting materials or contract support as needed and entering labor hours and equipment and material costs in IFS. IFS calculates labor charges and transfers total charges for a particular APC to STANFINS in nightly uploads. Thus, as charges are incurred, they are debited daily to the selected APC.

DIS policy is that all labor hours are to be entered the next business day in IFS. In practice, however, data are generally entered into IFS a couple of days, and in some cases as long as 2 weeks, after the work is done. As we noted earlier, IFS is not generally considered a standard desktop application. At DIS, data entry for labor hours is centralized to two or three data entry clerks, some of whom work part-time. It is possible to develop backlogs for this aspect of data entry.

Material charges are incurred in a few ways. As noted earlier, a shop stock rate is incorporated into labor charges. Materials are also charged to a particular task when drawn from the current supply inventory. Materials are typically purchased by the DIS supply group using garrison funds. When staff members draw upon inventory, DIS practice is to credit the garrison APC on which the material was originally purchased and then debit the APC indicated in IFS for the task. In some

cases, it is also possible that materials in the existing inventory are left over from supplies charged to previous tasks. In those cases, materials are charged not when drawn from inventory but, rather, are charged after the job is complete and replacement parts are ordered.

If maintenance staff members find that a substantial degree of repair is required, then the shop forwards a request to the DIS work order process (described below).<sup>1</sup> To the extent contract support is required for a service call, that information is forwarded separately to the DIS budget office, which then enters that information into DCAS. Currently, contract cost information is not entered in IFS at Fort Detrick.

DIS also does not have a consistent methodology for closing service calls. DIS policy is that shop staff members ask for a customer signature once a repair has been completed, but they report that obtaining a signature is not always possible. Regardless of paper verification of a completed service call, there is no policy to routinely review open service call tickets or enter a closed status for those where the work is complete or no longer required. During our interviews, we noted that DIS had some 265 service calls more than 30 days old, many of which had no charges.

DIS provides customers a monthly statement summarizing itemized charges for service calls. These charges are listed by the IFS document number and provided by each APC that the customer has established for service calls. The dates on the report merely reflect the date that a charge was entered in IFS and do not necessarily represent the date the request was made or the date of service. Generating the monthly statements is a relatively complex process because it is paper based and because a report is generated for each customer APC.

## Preventive Maintenance

The DIS conducts a PM program for installation facilities to control overall repair costs. The DIS establishes a schedule of its PM activities and charges tenants for some or all PM activity conducted on their facilities.<sup>2</sup> The majority of IFS documents for PM are generated using a locally developed download from Asset Works, a commercial off-the-shelf software package used by Fort Detrick to track and schedule PM work. Asset Works contains a detailed inventory of equipment and facilities at Fort Detrick along with the manufacturer's recommendations on scheduled maintenance for each item. The APC for each piece of equipment is also captured. Again, one customer may have more than one APC. Also, a building may have more than one APC associated with it because of multiple tenants in that facility. The database also contains information on estimated labor

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<sup>1</sup> Though there is an established threshold for expenditures for each service call, the threshold is approximate and the shop supervisor decides if and when it is necessary to forward the repair task.

<sup>2</sup> The level of service considered reimbursable versus non-reimbursable is established between the garrison and tenant and is documented in an inter-service support agreement.

hours required for a particular task and the same shop-effective rates contained in IFS; however, the data are not used to project the estimated costs of each PM task. The use of Asset Works is a recent initiative at DIS and not all facilities are in the inventory database.

Each month, a query of the Asset Works database produces a schedule of preventive maintenance that should be accomplished that month. For the few facilities not included, IFS generates similar schedule information, although with less detailed information. The schedule is electronically downloaded into IFS in order to generate documents and unique document numbers for each task. At this point, information on the PM schedule, facility location, equipment, job description, and estimated labor hours are captured in IFS.

The DIS also makes the PM schedule from Asset Works available to any interested parties. At this time, only MRMC has requested a report of each month's scheduled activities. MRMC reviews the report and informs DIS if it wants to modify the schedule.

Shop supervisors prepare detailed weekly schedules from the monthly schedule and assign individual shops to perform the work. Though it is DIS policy for shop staff members to inform customers when work is completed, customers report that they typically do not know if or when the work was completed. LMI also observed that information on the completion date for a PM activity was inconsistently recorded. Thus, users of IFS data cannot distinguish between PM that was completed from PM that was not.

The process for entering daily labor and equipment charges is the same as for service calls. Daily timecards from shop staff are forwarded to the DIS staff for entry in IFS.<sup>3</sup> Again, though DIS policy calls for daily entry, this is not always applied.<sup>4</sup> Material charges and contract costs use the same process described above for service calls.

DIS management does not routinely compare actual labor costs for preventive maintenance to the scheduled or estimated costs. A routine review would enable management to adjust work force requirements for projecting future workload. Such a comparison would entail querying IFS to generate a specific report that calculates labor costs based on estimated versus actual PM hours.

In the same monthly statement described above, the DIS also provides all PM tasks, and corresponding charges, by their unique document numbers. This is provided on a separate sheet, indicated by the APC a particular tenant has established with the garrison for PM activities.

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<sup>3</sup> Timecards for operations and maintenance staff are forms titled "Labor and Equipment," typically referred to as L&Es.

<sup>4</sup> In the case of preventive maintenance, our review indicated that it is not uncommon for staff members to base their actual time on the manufacturer's recommendation as estimated in Asset Works.



## Work Orders

The work order process covers services related to new construction, building alterations, and major repairs. Requests for work order services are usually made directly by a garrison or tenant organization, but may be the end result of a service call or PM task. DIS evaluates all work order requests in weekly meetings to assess engineering and other resource requirements. The majority of this work is accomplished using contract services for construction. DIS engineering staff members and estimators provide estimating, planning, and oversight services.

After the weekly meeting, data entry personnel enter information on the work orders into IFS and generate the respective documents and identifying document numbers. A customer is asked to provide initial funds to estimate the accurate cost of the total project. At this time, the customer coordinates with the RM office to establish a new APC for the project. Unlike the other business processes, a separate APC is established to fund each individual work order request. Then, DIS prepares a project estimate. Once the reviewing authority at the customer site approves the estimate, DIS requests additional funds for the work. Estimators typically enter their labor resources at this phase. Estimated contract costs are not entered into IFS at this time.

After the contract is awarded, DIS provides oversight throughout the life of the project. Labor data for oversight and other administrative support for the project, including contracting and engineering staff, are generally entered biweekly, corresponding to the civil service pay periods. Although the data fields exist within the IFS database, it is not DIS practice to enter actual or estimated contract amounts in the system. Rather, contract costs are tracked and managed using DCAS. However, DCAS transmits only actual costs to STANFINS. Therefore, estimated contract costs are not electronically recorded in either IFS or STANFINS. It is important to note that contractor invoices are submitted after work is completed, per project milestones as noted in the contract, and actual charges are not entered until payment has been made. DIS reports that payment to contractors has been taking 30 to 60 days.<sup>5</sup>

Army policy does not allow project funds to include a contingency amount to cover any unforeseen costs or change orders. If additional funds are needed, DIS sends a revised estimate to the corresponding contracting authority at the customer's organization to reflect the increase in direct contract and oversight costs. If additional funds are approved, then the total funds available for the APC established for the project are updated in DCAS and STANFINS.

DIS provides the customer a monthly report of charges applied for each individual work order.

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<sup>5</sup> Depending on contract terms, delays past a certain point may result in interest penalties, increasing charges for the customer.

# Chapter 3

## Customer Requirements and Concerns

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In this chapter, we discuss customer requirements and concerns about financial information related to facilities activities. In general, we found that DIS customers are frustrated. Their primary concern is that the garrison, as their landlord, is not responding to their needs for facilities management-related cost and performance information. Without that information, tenants are unable to effectively monitor and manage their facility-related expenses and budgets. Tenants often do not have the information to assess tradeoffs between fiscal outlays and “performance” on building maintenance, repairs, or alterations and, therefore, are unable to make optimum organizational choices in this area.

In the following sections, we discuss and summarize our key findings from customer interviews. We then present our analysis, identifying key limitations in the current systems and practices, and state our overall conclusions.

### KEY FINDINGS

We group our findings by type of facilities-related support: service calls, PM, and work orders. For each type, we summarize customer needs for financial information, compare their needs to what they currently receive for monitoring and management, then identify critical information gaps.<sup>1</sup>

#### Service Calls

Once a tenant reports a repair problem, the DIS trouble desk relays the call to the appropriate maintenance staff members, who are then dispatched to the tenant organization. At the same time, the trouble desk assigns an APC to the task so that it can be charged to the proper account. As noted earlier, at Fort Detrick, it is possible for a tenant to have several APCs established for service call activities. A unique document number is also assigned at the DIS to identify the task in IFS and, subsequently, on financial and management reports.

Customers require both operational and fiscal accountability. Operationally, tenants require periodic status reports on the service call, particularly if immediate repair is not feasible. Fiscally, tenants require the authority to verify the APC to ensure that costs are charged to the proper account. They also require notification

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<sup>1</sup> During interviews, customers raised questions about the types of activities they should be charged for, as per their service agreement with the garrison. Our study was limited to the efficacy of the financial systems at the garrison once charges had been made. However, the question of whether or not a charge should be incurred is a concern that DIS should address.

of the document number to track the task and corresponding charges on billing reports. Finally, customers want to ensure that the service call has been closed (i.e., that the repair work has been completed) when they are billed.

In the current business process, there is no routine information flow that allows tenants the opportunity to verify the APC when the service request is made or to receive document number identification prior to being charged for services. Operationally, customers report that they do not consistently receive status reports once a service request has been initiated. Instead, tenants report that they need to physically check the site of the repair to determine whether or not work was successfully completed. If it is not completed, customers initiate telephone requests with DIS to determine the status of the request, reasons for any delays, and anticipated completion date.

Customers receive a monthly statement from DIS that itemizes all facilities-related charges for the previous month. Charges are listed by their unique document numbers as well as the APCs for a particular customer; they also contain brief descriptions of the work. The statements enable customers to see what charges they are incurring, but they cannot always determine specifically what the charges are for because the descriptions are typically insufficient and because they do not have the document number for tracking purposes. Also, the statements do not indicate whether a particular service call has been completed. Therefore, both financially and operationally, customers do not have internal access to identifying completed versus open service calls.

To compound matters, customers also receive monthly statements from the RM office showing charges debited to each APC the customer has established. This report shows cumulative charges from the beginning of the fiscal year.

Customers are dissatisfied about their inability to verify monthly charges directly incurred by the DIS. In addition, they are unable to reconcile total monthly charges from the RM's financial reports with the billing statements from DIS.

## Preventive Maintenance

Tenants that occupy a significant amount of space, for example, multiple buildings, have a sufficient need to monitor the condition of their buildings. These tenants typically have their own facilities management staff. Proper information on the type, level, and cost of preventive maintenance becomes critical for making operational decisions such as budget and manpower allocations. Understanding the DIS's intended PM schedule and subsequent costs is also important to customers. Here, customers are seeking to determine the estimated charges that they would be obligated to pay, as well as to understand potential tradeoffs in the level of PM activities based on cost. Because they are required to pay for certain PM services, tenants want input in the decision-making process so that the level of PM provided will be financially and operationally optimum for their organization.

Finally, tenants require periodic reports indicating what PM activities were completed, along with the date of completion and the actual versus estimated charges.

DIS has been providing some customers, at their request, with a schedule of PM activities for their facilities. The schedule of PM activities does not contain cost estimates for the work. Customers also do not receive any comparison schedules that show if and when a scheduled PM activity was completed. Customers receive cost information on the same monthly statement from DIS, mentioned above. Here, charges for a customer are identified under the customer's APC for preventive maintenance. Again, charges are listed according to a unique document number—customers face the same inability to identify the activity behind a PM charge and exert considerable internal effort to understand what the charges are for. The monthly information is useful as a vehicle to track some level of PM activity; however, it does not provide customers any estimate of future activity and corresponding costs to support budget management decisions. It also does not come in an electronic format that would allow tenants to track or analyze the information more readily.

## Work Orders

Fort Detrick typically outsources work order requests to contractors; DIS oversees those contractors. Customers require notification on anticipated cost overruns and periodic status reports on work. When the work orders are completed, customers would like to receive a statement that provides a record of actual versus estimated charges and a baseline against which to compare charges that may be billed 2 to 3 months after the completion date.

Customers also had concerns about paying for oversight charges above and beyond direct contract charges; however, it is standard practice in the construction industry to recoup supervisory and overhead charges above actual project costs. Some of those interviewed expressed concerns about not being kept abreast of project progress and developments. Currently, oversight personnel at DIS work directly with a point of contact at the tenant's organization throughout the project life cycle. It is possible, however, that information is not flowing internally within the tenant organization between the point of contact and those responsible for financial or operational decisions related to facilities management.

## Summary

Informational needs for customers fall into the following critical areas, listed in order of importance:

- ◆ Customers require the ability to translate the document number (from the monthly statements DIS generates from IFS) for a specific charge to the actual activity for which the charge was incurred. The current level of information being provided to customers does not allow this.

- ◆ Customers require the ability to compare estimated charges for completed work against actual charges. In particular, customers are seeking an “invoice” type of information system that provides them a baseline of actual costs for a particular activity. This allows customers to verify actual charges and ensure financial accountability when the financial transaction is actually credited to their accounts, regardless of the time differential between when service was completed and costs were charged.
- ◆ Customers require accurate information on projected charges, particularly for preventive maintenance and construction activities. For example, providing tenants with information about their anticipated remaining costs for PM activities enables them to monitor actual expenses at the APC level against allocated funds and projected expenses. Customers need this information to understand, on a periodic basis, how budgets at the fund level compare with ultimate incurred expenses and how best to allocate funds among their service accounts if needed. This level of review also allows customers to establish a better estimate from which to base future budget needs. Current information is limited to a retroactive review of charges.
- ◆ In this age of information technology, customers are interested in acquiring management information in electronic form. The use of information technology makes it easier for them to track, analyze, and use data to inform management decisions.

## ANALYSIS

Tenants have a legitimate need to track expenses and establish an accurate basis from which to make budget and allocation decisions. Both the RM office and the DIS have adopted a variety of practices to improve financial accountability for tenants for their facilities-related charges. Yet limitations continue to exist. We identified three key limitations in current systems and practices:

- ◆ Reconciling IFS and STANFINS is difficult.
- ◆ Use of multiple APCs leads to data entry errors and complicates customer efforts to verify charges.
- ◆ Workflow processes limit information flow to customers and impede their ability to account for facilities-related charges.

## Reconciliation of IFS and STANFINS

IFS collects data at the task level, while STANFINS collects data by APC. Because it is an accounting system, STANFINS was not designed to reconcile to the tasks itemized in IFS. This difference in level of detail makes it difficult to track cost differences between the two systems.

In addition, technical and operational factors contribute to differences between the two systems:

- ♦ Contract data are maintained in STANFINS through DCAS but not in IFS. Moreover, DCAS and IFS communicate to STANFINS on different schedules. IFS transfers data daily, whereas DCAS and STANFINS transmit data to each other every 3 to 5 days.
- ♦ Previously, when charge errors were identified (either by the customer or DIS), staff members would fix the errors by making cost transfers in DCAS only, at the APC level. Though these changes would be captured in STANFINS due to the periodic data transfer between DCAS and STANFINS, they would not be captured in IFS. This practice has now been curtailed; the staff has been instructed to make changes in charges directly in IFS.
- ♦ STANFINS is a cumulative system showing charges on a year-to-date basis whereas IFS captures itemized charges.
- ♦ Delays in entering labor data in IFS do not necessarily impact reconcilability between the two systems per se, since a delay in entering charges in IFS leads to an equivalent delay in them manifesting in STANFINS. However, these delays do affect customers' ability to receive bills in a timely manner.

Because of the above time disparities, due to either delays or error fixes, actual reconciliation between the two systems occurs only at the end of each fiscal year. Even then, although it is possible for the two systems to show similar aggregate costs at the APC level for a given time period, the two sets of costs will never be exactly the same. Customers who rely on the financial information from the two systems to monitor their own budgets and expenses rely on reconciliation efforts in an attempt to ascertain their final and actual charges.

## Multiple APCs

Customer demand for an improved ability to identify, monitor, and verify actual facilities-related charges led the RM office to implement a more comprehensive approach to the APC structure for these services.

As indicated previously, an APC typically represents a type of activity and a specific user. Because tenants at Fort Detrick are governmental organizations, they pay for their charges through a variety of internal funding sources. To increase the transparency between the garrison accounts structure and their own internal funds structures, tenants have requested multiple APCs for a type of activity, each corresponding to a separate source of tenant funds. In addition, to control for errors in charging from fiscal year to fiscal year, the RM has adopted a policy that establishes new APCs each fiscal year. As mentioned above, though

IFS has the technical ability to automatically derive the correct APC for a particular task, at Fort Detrick, the practice is to override this feature and manually enter an APC. However, the practice of adopting multiple APCs has the effect of forcing STANFINS to mimic tenant accounts data and has the unintended consequence of making the DIS data entry and APC assignment system more prone to errors and complicating customers' efforts to verify charges from IFS.

## Workflow Processes

Several aspects of the DIS workflow processes limit information flow and impede a tenant's ability to verify, track, or appropriately estimate their actual facilities-related charges:

- ◆ *Delays in charging costs from time of service.* As described in each of the work processes, delays between the time service was delivered and the time the customer sees charges on the monthly statements occur in three main areas: materials, contracting, and labor. Charges for replacement materials appear weeks or months after the work is completed. Because of delays in payments to contractors, contracting charges do not appear for at least 30 to 60 days after work is completed. Labor charges may be delayed as long as 2 weeks. (Of all expenses, the most improvements have been made in reducing delays for labor charges. DIS's goal is to enter labor costs the next business day.)
- ◆ *Inadequate notification on closure of work.* DIS often does not notify tenants when work has been completed. Inadequate information about service calls seems particularly problematic because each open service call is a source for potential charges toward which the tenant might need to hold funds or make funds available from other sources. This is particularly confusing for customers when reviewing their monthly charges from IFS because the report shows only the date charges were made; it does not contain any information about the date of the actual service. In addition, customers are unable to distinguish between work that has been completed from work that has not.
- ◆ *Inadequate identification of tasks on monthly reports.* As mentioned above, the monthly reports from DIS identify each task according to its unique IFS document number. However, the business processes for service calls and preventive maintenance do not provide a mechanism for tenants to learn about the document numbers assigned to their tasks. Again, this makes it difficult for customers to relate costs on their monthly reports to specific service requests or PM activity and therefore verify the charges.
- ◆ *Lack of intermediate information on costs.* In the case of work orders, there is a considerable gap between the time work is completed and the

time charges are finally debited to a tenant's account. In this case, the business process reduces the customer's ability to account for costs because it does not provide a summary of costs when the project is completed. Without this type of invoice mechanism, customers do not have the ability to judge the accuracy of charges. More importantly, this severely curtails the customer's ability to make sound decisions on allocating their discretionary expenses among funds during the fiscal year.

## CONCLUSIONS

The inability to identify charges at the task level in STANFINS makes it difficult to understand or verify costs for facilities-related services under existing systems and practices. Because of differences between dates of service and when costs are actually charged, cost information between IFS and STANFINS can be reconciled with any specificity only at the end of each fiscal year. To truly bridge the two systems, an APC would need to be created for each task, creating an unrealistic number of APCs for the garrison to manage or implement. Already, garrison practice has shifted to using multiple APCs as a means to increase cost transparency; however, this has not had the simplifying effect that was intended. Though reconciliation between IFS and STANFINS is theoretically feasible, it is neither practical nor cost-effective because both DIS and the RM office would need to dedicate considerable resources to align the two systems.

However, reconciling the two systems is not the only means to improve financial accountability for facilities-related charges. Alternative approaches are to improve existing reporting mechanisms and increase accountability between DIS and its customers at key points in the workflow process for each business activity.



# Chapter 4

## Recommendations

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In this chapter, we recommend a series of actions that Fort Detrick can take to improve the information flow for customers, mitigate their concerns, and improve overall financial accountability for facilities-related charges. Our recommendations target four key areas:

- ♦ Data capture in IFS
- ♦ Flow of information in DIS workflow processes
- ♦ Garrison policy
- ♦ Customer reports.

We also discuss some implementation considerations.

### IFS DATA CAPTURE

The garrison can improve the efficacy of IFS by increasing the amount of data that DIS collects in the system. Specifically, in addition to collecting data on actual costs, DIS should include estimated costs for PM and work order services. Estimated costs for PM can be calculated from existing data in Asset Works and then included in the monthly transmission to IFS. For work order services, DIS should include estimated costs not only for contract services, but also for contract oversight, estimation, and other relevant support services. The current practice for contract costs is to enter them in DCAS. However, actual charges for contract costs should also be captured in IFS. This practice would not only improve the reporting abilities of IFS but also improve its ability to reconcile with STANFINS.

### DIS INFORMATION FLOW

DIS can improve information flow at several key points in its work processes. In the following subsections, we suggest some steps that DIS could take. (Specific implementation steps would require further study.)

#### Closing Tasks in IFS

DIS does not have consistent process in place for recording the completion of tasks in IFS for any of the three work processes. We recommend that DIS establish a business practice and policy on closing tasks in IFS for all work process.

For example, DIS could generate a routine report that shows the number of service calls open more than 20 business days. Similarly, for preventive maintenance, DIS could generate a report comparing scheduled PM tasks with their date of completion. DIS management could use the report to follow up with shop personnel to close completed tasks and to learn the status of the calls that remain open. Over time, such a review process could improve current practices related to closing a call.

Along with the internal review, the DIS should consider establishing a process to ensure that customers understand the status of their work. For example, under the review process, shop personnel, those reviewing the reports, or some third party could be responsible for the customer-service task of talking to customers and relaying the reasons for an uncompleted service call or preventive maintenance task.

## Service Calls

For service calls, we identified three strategic areas for improving information flow: selecting an appropriate APC at the time of request, providing document numbers to customers, and closing service calls. One action that DIS could take to address these areas is to implement a web-based application that would allow service call requests, status information, and information such as the APC and document number to be transparent to customers. In addition, such an application would facilitate (and record) critical communication between the trouble desk and the customer. This solution does not require a reduction in personnel; rather, staff duties for the trouble desk would be modified to include oversight of web requests and reduce the need for telephone intake.

Implementation of a web-based application could result in the following workflow process:

- ◆ The customer logs onto website and requests service. At this point, the customer would type in a description and offer an APC. This step transfers responsibility for assigning an APC from the trouble desk to the customer. As noted earlier, inputting an APC currently requires manual entry due to the multiple APC policy in place at Fort Detrick. Though it would be possible to program a web-based application to automatically generate an APC, this would most likely require a simplification of the existing APC system used by the garrison.
- ◆ The trouble desk sees the request come in. The trouble desk would not “approve” the request until it verifies the APC, using its code book or checking with budget staff. If there is a problem with the APC, the trouble desk would immediately alert the customer, making the customer accountable for choosing the appropriate APC for the service.
- ◆ Once a proper APC is identified, the trouble desk modifies the information on the website and approves the service request. This information would

be downloaded into IFS to generate a document for the task and create a unique document number. Another benefit is that the customer's description could be used for the job description in IFS. This would not only make it easier for the customer to identify the particular task on monthly statements but also free up time for DIS personnel who are servicing the call. Also, the date of the initial request would be recorded and available.

- ♦ Information from IFS is electronically transmitted to the customer. One approach for transmitting the information would be to send an automatic e-mail to notify the customer that the service call request has been recorded along with the unique document and job description. Another possibility would be to display the information on the website. For example, the website could have the ability to pull up IFS documents by document number, APC, or both. Technically, it is feasible to protect this information so that a customer would be able to view only its information and not that of another organization. Even information as simple as the document number for a task would substantially improve a customer's ability to track and review charges.

Information on the length of time a service call remains open is also important. Although DIS can establish internal accountability on closing calls through the reports (and accompanying policy) discussed above, customers could also get automatic notifications for service calls open more than 20 working days. Alternatively, they could pull reports of these service calls on the website. The web has the added advantage in that data from the report could be printed and electronically downloaded for the customers' management needs.

In terms of feasibility, a front-end web application is already being developed within the Army for the IFS. The module is due out in spring 2001. The version would allow DIS to define the type of information that users can view on the request screen. Though the module will be available, we recommend that the DIS conduct a technical needs assessment to adapt the technology as an efficient solution for DIS staff members and customers.

## Preventive Maintenance

We identified two opportunities for the DIS to improve the flow of information about preventive maintenance, one at the front end of the PM workflow process and the other at the back end.

At the front end, the DIS should routinely provide a periodic report of scheduled PM activities and associated costs to all tenants. Although only one tenant has requested such information, we believe that this information is critical for all tenants. By routinely providing this information, DIS would meet customer needs for financial management information. It is critical that the current report on PM scheduled activities include the cost of those services. Because Asset Works tags equipment with APCs, the report could also show tenants the anticipated

maintenance work on their facilities for both reimbursable and non-reimbursable activities. The descriptions for each task, as they would be captured in IFS, should also be a component of this report. This type of report should be distributed annually, at the beginning of each fiscal year. This information is readily available in Asset Works and would allow each organization to estimate costs for the year. It would also enable DIS and tenants to resolve potential disagreements before services were performed and before charges were actually debited to tenant accounts. The DIS could establish a process to allow for modifications to tenant PM activity and generate IFS document numbers appropriately. In addition, such a report would provide tenants a basis against which to compare the current monthly statements that they receive. For example, they could compare actual charges to estimated charges and have a baseline from which to estimate remaining charges for their reimbursable PM work for the fiscal year.

At the back end, the DIS needs to improve its practice of closing PM tasks in IFS. As noted earlier, adopting a management review policy of scheduled PM activity versus what was actually completed should help DIS to improve this practice.

## Work Orders

The most valuable improvement in the work order process would be in the closing phase of the work, when the project is completed and DIS has received invoices for the costs of the project to date. As noted earlier, invoices are not paid immediately and actual charges may be substantially delayed. At this stage, however, personnel overseeing the contract have information to estimate the final costs for the project, even though final charges have not been physically entered into existing information systems. The current IFS is not designed to meet this interim accounting need between initial estimate and final charges. However, there may be a partial remedy. It is possible for the COR to enter the contract amount into the estimated contract cost field in IFS and generate a report that includes all charges against the work document. This type of statement would substantially improve a customer's ability to verify total charges against the APC because it allows them a baseline from which to compare actual costs to billable charges. Similar to the above processes, oversight staff should also be more consistent in recording the completion date for a work order project in IFS.

## GARRISON POLICY

We recommend that the RM office review its policy on multiple APCs. The garrison's objective should be to identify potential service areas for which it might be possible to reduce the number of APCs that have been established. If possible, the garrison should attempt to assign one APC for each specific type of service per customer organization. Because the garrison adopted these practices as a means of increasing financial transparency, LMI recommends that actual changes in the existing APC structure be phased in as other improvements in DIS's information flow and reporting take place. Customer organizations also will need ample lead

time to develop processes to account for the loss of some APCs that are aligned to internal accounting practices.

## CUSTOMER REPORTS

DIS can improve the current level of accountability in the process by improving the content and format of the monthly customer statements. Ideally, for each APC, customers would continue identifying a task by its document number and description. In addition, customers should be able to view the total estimated charges for the task. In the case of service calls, estimated charges are not applicable since these requests typically need to be resolved quickly and there is already an authorization ceiling in place. However, estimated costs for PM, contract costs for work order services, and supporting costs for work order services are applicable. The estimated costs would presumably stay static throughout the life of a task. Then, customer would review actual charges billed for that task the previous month. All of these fields are available in IFS, but before it could generate reports with this information, the DIS would need to begin capturing estimated costs for PM and work order services as well as actual contract costs.

In addition to viewing actual charges for the month, customers would also benefit from viewing cumulative charges to date for each task (as identified by its unique document, or job, number). This would require additional programming to the existing report query in IFS.

Besides changes to the report at the task level, we also recommend changes at the APC level. Currently, each customer receives a monthly statement for every active APC corresponding to a facility-related service. From a budget management point of view, it would greatly enhance a tenant organization's ability to allocate funds properly if they could also view a roll-up of charges to date for each APC as well a corresponding roll-up of estimated charges remaining for the APC. For example, for a PM APC, the DIS would need to add programming to the current report generation that would add all the charges to date for that APC, from the beginning of the fiscal year. Additional programming would be needed to add all the estimated costs for each PM activity that remains scheduled for service after the last date covered on the monthly statement. Note that in this case, estimated costs would not cover additional charges yet to be incurred for scheduled but uncompleted PM activity. For work order services, estimated costs for the remainder of the project may be the result of subtracting actual charges to date from the original project estimate. All of these data fields are contained in IFS but not all are populated under existing practices.

Finally, we recommend that DIS forward an electronic copy of the monthly statement to tenants. It would be particularly helpful if the electronic data could be downloaded in Microsoft Excel format to facilitate data tracking and manipulation.

## IMPLEMENTATION PHASES

Some of the actions we recommend can be implemented immediately, while others will take longer to implement. Improving the data capture in IFS is a key step that the garrison can take immediately.

In the near term, the RM office can begin reviewing APC policy. This review should involve the participation of the tenants, DIS technical and budget staff, and other garrison representatives whose responsibilities are relevant to the process. The aim of such a review would be to inform garrison policy on how best to simplify the existing APC structure and how to phase in the new codes.

Another near-term action that the garrison can take is to improve certain aspects of information flow—specifically, it can establish a web-based application to handle service calls and improve existing reporting mechanisms. To establish a web-based application, Fort Detrick can begin identifying system requirements, which involves conducting detailed interviews with customers and gaining a solid technical understanding of how the application would interface with IFS. Once the garrison has a better understanding of its requirements, it would then need to assess whether the tool being developed by the Army meets its needs or whether it would be more cost-effective to develop its own tool. (Those building the web-based application should be advised of the APC review process so they can understand where and when programming changes to the application would be made.)

To improve existing reporting mechanisms, the RM office can initiate a dialogue with the tenants and DIS about the recommended changes to the monthly billing statements. In this way, the garrison can gain consensus on the reporting fields that are most relevant for customer needs and are within the existing technical capability of IFS. It will be important to show stakeholders precisely what improvements can be accommodated in the near term versus those that require a longer time horizon. For example, in the interim, the reporting process can be improved to show estimated versus actual costs and cumulative versus projected costs, and they can be provided electronically.

Other improvements, such as better identification of job numbers, proper notification of closed calls, and an ability to track delayed costs, are more operational in nature and will take a longer time frame for resolution. Though these are critical pieces of information for customers, implementing those steps will take careful, thoughtful modifications to DIS workflow processes and, therefore, will require time to implement.

# Appendix A

## Facilities-Related Workflow Processes

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This appendix contains charts showing the workflow for the three categories of facilities-related activities overseen by Fort Detrick's Directorate of Installation Services:

- ◆ Figure A-1 shows the workflow process for service calls.
- ◆ Figure A-2 shows the workflow process for preventive maintenance.
- ◆ Figure A-3 shows the workflow process for work orders.

Items in gray represent proposed changes to the work process.

[illegible]



Figure A-2. Preventive Maintenance Process

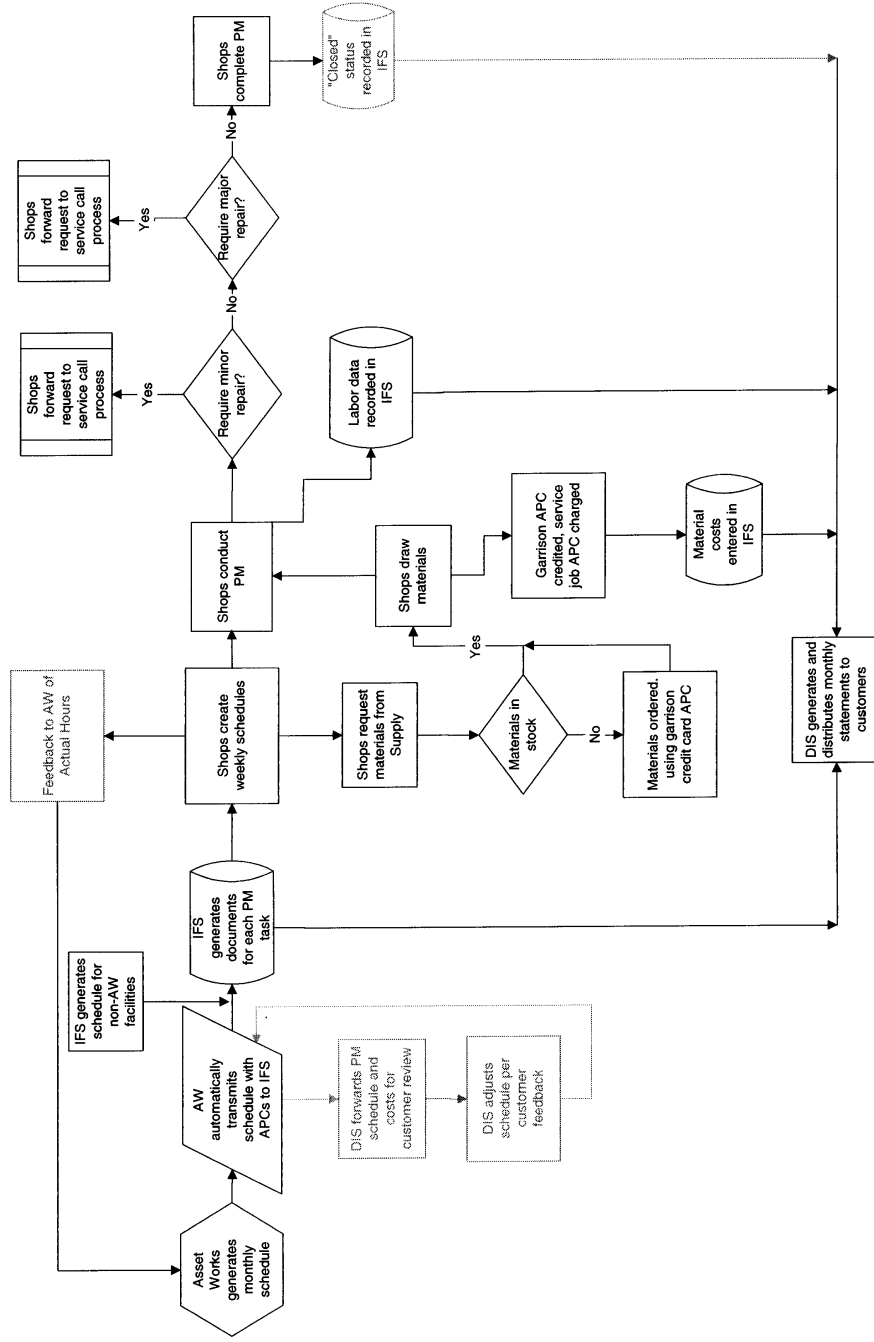
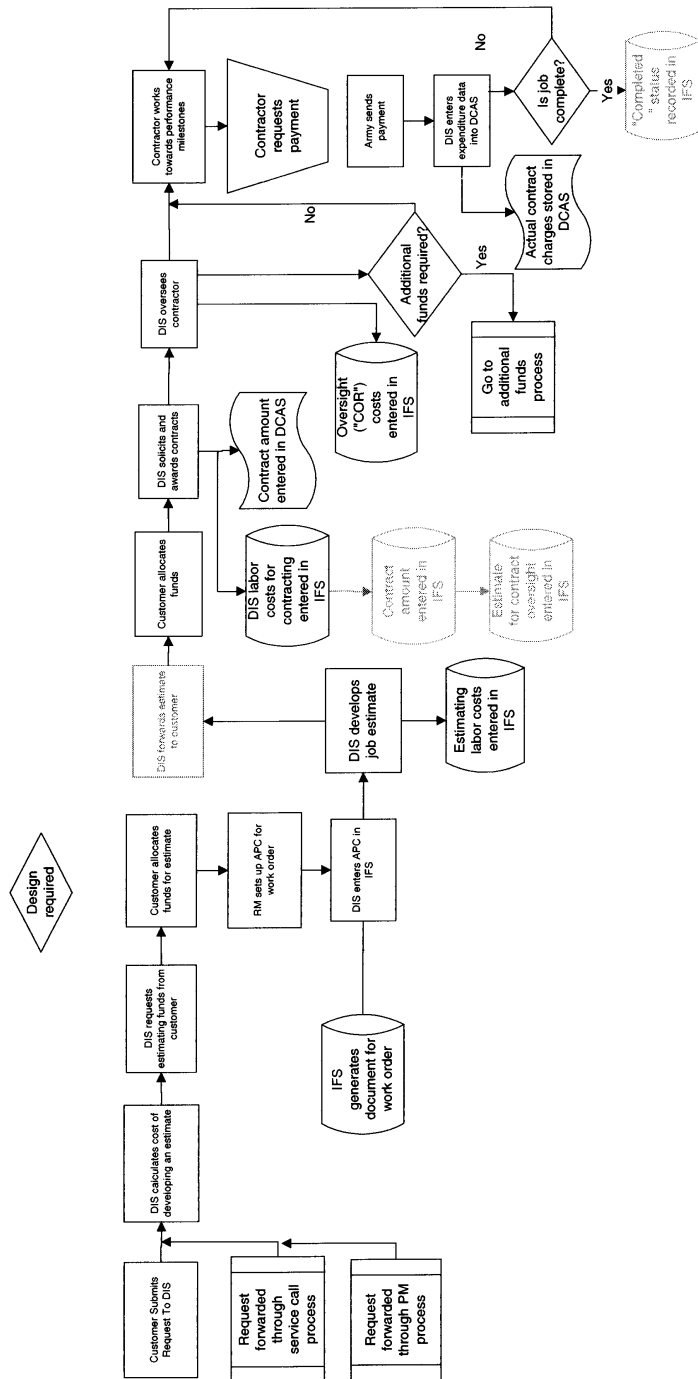


Figure A-3. Work Order Process



## Appendix B

# Abbreviations

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APC	account processing code
DCAS	Database Commitment Accounting System
DIS	Directorate of Installation Services
IFS	Integrated Facility System
MRMC	U.S. Army Medical Research and Materiel Command
PM	preventive maintenance
RM	Resource Manager
STANFINS	Standard Finance System
USAMRIID	U.S. Army Medical Research in Infectious Diseases
USDA	U.S. Department of Agriculture